

## STEM STUDY GROUP 7

### Recommendation

**Develop an ongoing, coordinated, statewide STEM initiative that maximizes the impact of resources among state agencies, schools, colleges and universities and businesses and is focused on developing and attracting STEM-related jobs to Kentucky.**

The STEM Study Group 7 proposes to adopt the following strategies in pursuit of Kentucky's STEM Imperative recommendations:

Strategy 6: Develop a report card that uses rigorous program assessment to measure Kentucky's progress in implementing STEM initiatives.

Leads to:

Strategy 7: Collect and disseminate global best practices focused on STEM instruction.

Then develop:

Strategy 2: Create a standing body of education, business, economic development, government, and nonprofit professionals to oversee and coordinate STEM initiatives at the statewide level.

The outcome:

Strategy 8: Provide incentives for faculty and students to help catalyze STEM company formation or growth in the Commonwealth according to the "Statewide Strategy for Economic Development."

These strategies and their proposed associated objectives and details developed to date are provided below.

Strategy	Objectives (to achieve the strategy)	Accountability & Assessment (Responsible Person/Agency)	Timeline for Completion	Funding Source/Estimated Cost
<b>Develop a report card that uses rigorous program assessment to measure Kentucky's progress in implementing STEM initiatives</b>	<ul style="list-style-type: none"><li>Explore existing report cards that may provide models, data and outcomes to consider for Kentucky.</li><li>Develop list of process and outcome variables to be measured. These would represent progress on multiple fronts including such measures as AP/ACT scores on math and</li></ul>	Task Force, CPE staff, faculty researchers such as Paul Coomes of U of L.	Initial configuration of data needed, methodology and scope can be completed in spring 2008.  Supportive	TBD but likely from public sources.  Estimated cost to be determined.

	<p>science, number, type and need for STEM careers in Kentucky, and per capita income.</p> <ul style="list-style-type: none"> <li>• Conduct research on STEM initiative opportunities in Kentucky focusing on such areas as economic impact, workforce need and educational system capacity and needs.</li> <li>• Roll out of report card in fall 2008.</li> </ul>		<p>research can be conducted in spring and summer 2008.</p> <p>Roll out of report card should be scheduled for the fall 2008, during the onset of the academic year if possible.</p>	
<b>Collect and disseminate global best practices focused on STEM instruction</b>	<ul style="list-style-type: none"> <li>• Determine the disciplines that should be attended to in STEM instruction according to current need in the Commonwealth, anticipated future need, and strategic economic directions that need to be developed.</li> <li>• Determine the environments and locations within which STEM instruction is exemplary that correspond to the needs and goals of Kentucky STEM initiatives.</li> <li>• Identify best practices across multiple disciplines and within multiple settings/locations and educational levels.</li> <li>• Explore optimal ways to disseminate and honor best practices. Consideration should be given to electronic dissemination, publications, and events which recognize excellence in STEM instruction</li> </ul>	STEM Task Force, CPE and KDE staff, State agencies as key stakeholders by virtue of outcome of the disciplines and educational levels of best practices	<p>January – August 2008</p> <p>Dissemination of best practices could be implemented in fall 2008, initially through internet.</p>	TBD
<b>Create a standing body of education, business, economic development, government and nonprofit professionals to oversee and coordinate STEM initiatives at the statewide level</b>	<ul style="list-style-type: none"> <li>• Develop charter for the group based on the mission, scope of operations and authority of the STEM coordinating body</li> <li>• Develop budgetary support for operations based on charter.</li> <li>• Identify key state leaders in education business, government and nonprofits who are key stakeholders in STEM</li> </ul>	STEM Task Force, key leaders as identified in the objectives.	<p>Spring 2008 through December 2008.</p> <p>Development could commence with the STEM conference in February 2008 and</p>	Public and private funds. We may want to explore a consortium based funding model to support this group. Key leaders

	<p>initiatives in Kentucky.</p> <ul style="list-style-type: none"> <li>• Convene these leaders to secure broad based support for the STEM group functions and public advocacy of STEM initiatives.</li> <li>• Develop nomination process and seek nominations for individuals to serve on this body.</li> <li>• Convene charter members of the STEM body to coordinate STEM initiatives.</li> </ul>		<p>should be completed by the year's end.</p>	<p>identified and convened as described in the objectives could comprise the initial consortium.</p>
<p><b>Provide incentives for faculty and students to help catalyze STEM company formation or growth in the Commonwealth according to the "Statewide Strategy for Economic Development."</b></p>	<p>The discussion of this element is in its early stages. The development of this component could constitute an early consideration for the coordinating body described above. Some of the considerations for this specific initiative could include the following:</p> <ul style="list-style-type: none"> <li>• Research and identify catalytic support mechanisms provided by other states that have proven effective in forming, developing and growing student/faculty STEM companies</li> <li>• Using the Statewide Strategy for Economic Development and the outcomes of the initial research mentioned above as a foundation, develop incentive mechanisms and funding sources to fund the formation and development of STEM companies.</li> <li>• Create criteria for selection of student/faculty STEM companies</li> <li>• Issue RFP or initiated other process to identify and provide incentives for STEM companies.</li> </ul>	<p>STEM Task Force, Statewide Coordinating Body</p>	<p>Basic research and development of process can be completed by fall 2008.</p> <p>Awarding of incentives could be carried out as an initial activity fo the state coordinating body, possibly in late 2008 or early 2009.</p>	<p>TBD</p>